

REMARKS

In view of the above amendment, Applicants believe the pending application is in condition for allowance.

Claims 1, 2, 4, 6-22, and 25-42 are now present in this application. Claims 1 and 19 are independent. By this amendment, claims 3, 23, and 24 have been cancelled, without prejudice or disclaimer, and claims 1, 2, 4, 6, 8, 11-13, 18-21, 25-27, and 40-42 have been amended.

Reconsideration of this application, as amended, is respectfully requested.

Information Disclosure Citation

Applicants thank the Examiner for considering the references supplied with the Information Disclosure Statement filed July 18, 2007, and for providing Applicants with an initialed copy of the PTO-SB08 form filed therewith.

Drawings

Since no objection has been received, Applicant assumes that the drawings are acceptable and that no further action is necessary. Confirmation thereof in the next Office Action is respectfully requested.

Rejection Under 35 U.S.C. § 112, 2nd Paragraph

Claims 18 and 21 stand rejected under 35 U.S.C. § 112, 2nd Paragraph. This rejection is respectfully traversed.

The Examiner has set forth certain instances wherein the claim language lacks antecedent basis or is not clearly understood.

In order to overcome this rejection, Applicants have amended claims 18 and 21 to correct each of the deficiencies specifically pointed out by the Examiner. Applicants respectfully submit that the claims, as amended, particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

Rejections under 35 U.S.C. §103

Claims 1, 2, 6, 7, 16, 17-20, 23, 24, 26-35, and 38-42 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakamura in view of Sulzmann. Claim 3 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakamura and Sulzmann and further in view of the admitted stated of the art (ASA). Claims 4 and 25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakamura and Sulzmann and in further view of Chang. Claims 8 and 9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakamura and Sulzmann and in further view of Sloan and Wang. Claim 10 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakamura and Sulzmann and in further view of Pick. Claim 11 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakamura and Sulzmann and in further view of Aksenov. Claim 12 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakamura and Sulzmann and in further view of Tsutsumi. Claim 13-15, 36, and 37 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakamura and Sulzmann and in further view of Glucksman. These rejections are respectfully traversed.

Complete discussions of the Examiner's rejections are set forth in the Office Action, and are not being repeated here.

While not conceding the appropriateness of the Examiner's rejection, but merely to advance prosecution of the instant application, Applicants respectfully submit that claims 3, 23, and 24 have been cancelled, without prejudice or disclaimer, thus rendering portions of the above rejections under 35 U.S.C. § 103 moot. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

While not conceding the appropriateness of the Examiner's rejection, but merely to advance prosecution of the instant application, Applicants respectfully submit that independent claim has been amended to recite a combination of elements in a steam drum washing machine including "a water-supply unit including a drum rotatably mounted in the tub for rotation about a generally horizontal axis and adapted so that clothes are put in the drum and the water is supplied into the drum", "a steam generator for heating the water to generate steam and supplying the generated steam into at least one of the tub and the drum", and "a water-supply unit that supplies the water into the tub and the steam generator." The water-supply unit

including “a water-supply valve assembly disposed at one end of the casing for supplying the water”, “a detergent box assembly mounted between the water-supply valve assembly and the tub for storing a detergent”, “an auxiliary water-supply tube connected between the water-supply valve assembly and the detergent box assembly”, “a water-supply tube connected between the water-supply valve assembly and the steam generator, thereby the water being supplied to the steam generator separately from the detergent box and the tub”, and “a steam tube having one end connected to the steam generator and the other end in communication with the inside of at least one of the tub and the drum for downwardly supplying the steam into the at least one of the tub and the drum”.

Similarly, independent claim 19 has been amended to recite a combination of features in steam drum washing machine including “a drum rotatably mounted in the tub for rotation about a generally horizontal axis and adapted so that clothes are put in the drum and the water is supplied into the drum”, “a steam generator for heating water to generate steam and supplying the steam into at least one of the tub and the drum, a top wall of the steam generator comprises a first portion extending above a second portion to form a steam storing space to store the generated steam”, and “a water-supply unit that supplies the water into the tub and the steam generator.” The water-supply unit includes “a water-supply valve assembly disposed at one end of the casing for supplying the water”, “a detergent box assembly mounted between the water-supply valve assembly and the tub for storing a detergent”, “an auxiliary water-supply tube connected between the water-supply valve assembly and the detergent box assembly”, “a water-supply tube connected between the water-supply valve assembly and the steam generator, thereby the water being supplied to the steam generator separately from the detergent box and the tub”, and “a steam tube having one end in communication with the storing space and the other end in communication with the inside of at least one of the tub and the drum for downwardly supplying the steam into the at least one of the tub and the drum.”

Applicants respectfully submit that the combinations of elements as set forth in independent claims 1 and 19 are not disclosed or made obvious by the prior art of record, including Nakamura and Sulzmann

At the outset, Applicants note that independent claims 1 and 19 have been rejected as being unpatentable over Nakamura and Sulzmann. The Examiner notes that Nakamura has a vertical drum and not a horizontal drum, but that Sulzmann shows a horizontal axis machine that benefits from steam injection. Consequently, the Examiner asserts that “merely changing the orientation of the tub is not considered patentably distinct” and that it would have been obvious at the time of the invention to modify Nakamura and orient the tub horizontally “as it is a well-known drum configuration.”

Applicants respectfully submit that for the purposes of establishing obviousness, it is not a matter of simply whether one configuration is known but, rather the prior art teachings as a whole must be considered. On this basis, Applicants respectfully submit that it would not have been obvious to combine Nakamura and Sulzmann.

In particular, a vertical axis washing machine relies on laundry being fully submerged in wash water during the washing process while a horizontal axis washing machine relies on laundry being wetted, but not submerged in wash water. Accordingly, the soaking process, which is closely tied to cleaning efficiency, is different for the two types of washing machines.

Because a horizontal axis type washing machine cleans laundry by circumferentially lifting and dropping the laundry, the laundry is not submerged in wash water. One of ordinary skill in the art would not look to teachings from horizontal axis washing machines to modify vertical axis type washing machines since slight modifications could impact the cleaning efficiency and power consumption of the washing machine to be modified. Therefore, because Nakamura is not directed to a horizontal axis type washing machine, it would not have been obvious to modify Nakamura to include a horizontal drum as taught by Sulzmann and the § 103 rejections of claims 1 and 19 must be withdrawn.

Furthermore, Sulzmann discloses a vertical type washing machine where steam is supplied into a lower portion of the tub. Consequently, the steam is supplied into wash water stored in the tub and the purpose of the steam is to heat the wash water in the tub. However, according to the claimed invention, steam is downwardly supplied into at least one of the tub and the drum, thereby heating the laundry and increasing the atmospheric temperature inside the tub. In other words, steam is not directly supplied to washing water stored in the tub. Heating the wash water for increasing the

temperature inside the wash drum using a tub heater or steam like Sulzmann requires more energy and time. However, as in the present invention, by injecting steam downwardly into at least one of the tub and the drum requires less energy and time. Therefore, in the present invention, it is possible to rapidly achieve the wetting of clothes while achieving an enhancement in sterilization and washing performance. In addition, consumption of water and electrical energy can be reduced.

For at least these additional reasons, it is clear that one of ordinary skill in the art would not look to Sulzmann to modify Nakamura.

In order to advance prosecution of the present application, Applicants have further amended independent claims 1 and 19 to recite subject matter similar to that set forth in cancelled claim 3. In the present invention, the water source for the steam is separate from the tub and the detergent box. Therefore, detergent, lint, and dirt removed during the washing process is not provided to the steam generator.

In rejecting claim 3, the Examiner alleged that it would have been obvious to further modify Nakamura and Sulzmann in view of the ASA. Specifically, while the present application admits that detergent boxes are known, the Examiner asserts that not only would it be obvious to provide a detergent box, but that it would have been obvious to include another pipe from the inlet valve to the detergent box as it is nothing more than a duplication of tube 16. For support, the Examiner relies on *St. Regis Paper Co. v. Beemis Co. Inc.*, 193 USPQ 8, 11 (1977) and *In re Haraza*, 124 USPQ 378 (CCPA 1960).

Applicants respectfully submit that this law is not controlling because in Nakamura, pipe 16 supplies water to a boiler 7. Therefore, a duplication of part 16 would add another pipe to supply water to boiler 7 and would not provide another pipe connected to another structure not disclosed in Nakamura. In other words, the cases cited by the Examiner cannot be relied on for showing that it would be obvious to add a detergent box simply because it may be possible to provide a second pipe connected to boiler 7.

None of the other references relied on by the Examiner were cited to address the deficiency identified with respect to Nakamura and Sulzmann. Therefore, any hypothetical combination of Nakamura with the remaining references would fail to teach or suggest all limitations of independent claims 1 and 19.

For the foregoing reasons, Applicants respectfully submit that the rejections of independent claims 1 and 19 cannot be maintained and that the § 103 rejections be withdrawn.

With regard to dependent claims 2, 4, 6-18, 20-22, and 25-42, Applicants submit that these claims depend, either directly or indirectly, from one of independent claims 1 and 19, which are allowable for the reasons set forth above, as well as for their additional subject matter. Reconsideration and allowance thereof are respectfully requested.

For example, with respect to the claimed steam storing space, a steam storing space is important it container type steam generators. If hot water heated in the container is supplied to the laundry, it could damage the laundry. However, as clearly shown in Nakamura the boiler 7 is angled downward such that the steam must flow downward out of the boiler 7. Therefore, the claimed steam storing space is not provided by Nakamura. Furthermore, to provide the claimed steam storing space would teach against the configuration of Nakamura. Therefore, it would not have been obvious to modify Nakamura to provide the claimed steam storing space.

Office Action

The Office Action contains numerous characterizations of the invention, the claims, and the related art, with which Applicants do not necessarily agree. Unless expressly noted otherwise, Applicants decline to subscribe to any statement or characterization in the Office Action.

CONCLUSION

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone Chad D. Wells, Registration No. 50,875, at (703) 205-8000, in the Washington, D.C. area.

Prompt and favorable consideration of this Amendment is respectfully requested.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

By


James T. Eller, Jr.

Registration No.: 39,538

BIRCH, STEWART, KOLASCH & BIRCH, LLP

8110 Gatehouse Road

Suite 100 East

P.O. Box 747

Falls Church, Virginia 22040-0747

(703) 205-8000

Attorney for Applicants